

On November 6, 1980, John Forester, Fishery Management Biologist, and Shaw Davis, biologist at Hillside NWR, visited Mathews Brake NWR to evaluate the fishery. Mathews Brake is actually the name of the 1200 acre waterbody which is partly (600 acres) encompassed by the refuge boundary. An agreement to manage the waterbody has been reached with the landowners to allow management of the waterbody by the Service.

Sample results follows:

Electroshocker

<u>Species</u>	<u>Number</u>	<u>Length (in.)</u>	<u>Weight (lb.)</u>
White Crappie	1	9	0.3
Bluegill	2	6	-
Channel Catfish	1	11	0.5
Brown Bullhead Catfish	1	16	2.4
Smallmouth Buffalo	1	16	2.4

Creeel Census

<u>White Crappie</u>	<u>Length Range (in.)</u>	<u>Weight (lb.)</u>
4	6-8	0.5
4	8-10	0.9
1	12-14	1.5
<u>Black Bullhead Catfish</u>		
2	14-15	3.0

Twelve Foot Seine - (5 hauls)

<u>Species</u>	<u>Number</u>	<u>Length (in.)</u>
Bluegill	350	0.5-1
Redear Sunfish	5	0.5-1
Warmouth	4	1-3
Grass Shrimp	250	0.5-1

The bottom was too soft to use the 50 foot seine but sampling with other gear suggests that there is at least a fair sportfish population in the lake. No bass were captured or observed but fisherman interviews indicate that some large bass have been taken from the lake.

The major problem which appears to pose a threat to the waterbody is the introduction of silt at the south end. However, the lake still has adequate depth, hardness and pH to support a productive fishery. The lowering of turbidity would improve the fish producing capability of the water and it is recommended that efforts be made in that direction. The water control structure being planned should take into consideration the accelerated siltation of the waterbody. A plan allowing water level manipulation which permits low quality water to be bypassed around the lake is recommended.

Another trip was made to the refuge on January 7, 1981 to collect fish for pesticide evaluation. Mr. Mike Dawson, Land Acquisition Supervisor from the Area Office, aided in collection of specimens (fish and bottom muds) which were shipped to RALTECH Laboratories in Madison, Wisconsin for analysis on January 8, 1981.

Fish were collected with the electroshocker as follows:

<u>Spotted Gar</u>		<u>Bigmouth Buffalo</u>	
<u>Weight (lb.)</u>	<u>Lenght (in.)</u>	<u>Weight (lb.)</u>	<u>Lenght (in.)</u>
1.2	20.0	14.4	27.0
0.7	18.0	6.6	21.0
0.6	17.5	5.0	18.3
0.4	15.0	4.4	20.0
0.3	15.0		

Results of the analysis will be sent to the Washington, Atlanta and Jackson Offices .

Recommendations:

- 1) Design a water control structure to allow undersirable water to be bypassed around the refuge. This would entail catching the clear water during winter and early spring and bypassing turbid waters or pesticide laden waters once agricultural activity began.